Evaluation of oral health related knowledge and practices among support staff at a Dental institution: a cross-sectional survey

Abstract:

Aim: Knowledge of oral health is considered as one of the important factors as it influences the oral health related behaviour of an individual and oral hygiene practices in turn affects the oral heath related quality of life. Hence, the main aim of this survey was to assess the knowledge and practices of support staff at dental institute in Maharashtra.**Study Design:**Cross-sectional survey**Methodology:** The present survey was cross-sectional survey conducted among 103Support staff of a Dental Institute. The questionnaire consisted of 16 questions which which was distributed after taking Ethical permissions from the institution. Demographic characteristics, oral health related knowledge and practices were presented using descriptive statistics. Knowledge among different categories of support staff was compared using chi-square test.**Results and conclusion:**The results of the present study conclude that majority of the participants had a good knowledge about their oral health but were not motivated to utilize dental services which were available to them. The oral hygiene practices lacked the use of supplemental oral hygiene aids.

Keywords: Nurses, oral health, oral hygiene, self-care, self-assessment

Introduction

Oral health is a dynamic entity and its apt to say that widest possible array of factors affects oral health in either way. These factors include genetics, lifestyle, socio-economic status, environment, etc.[1-2]And in last two decades marked changing pattern in occurrences of dental diseases are result from change in living pattern, modified dietary habits, effective use of fluorides, improved oral hygiene practices and initiation of prevention based oral health programs for targeted social groups.[3-5]The consequences of not maintaining adequate oral hygiene could lead to the onset and progression of gingival and periodontal diseases in addition to dental caries formation, which if not treated may necessitate pharmacological interventions by using antimicrobials as well as surgical interventions.Hence, having a positive oral health requires joint efforts from both dentist as well as patients owing to the better knowledge towards healthy oral hygiene practices.[6]

The support staff of any dental institute plays a crucial role in being the channel for dissemination of correct knowledge about oral health and toss away some myths and misconceptions.Meriam-Webster dictionary defines knowledge as “information, understanding, or skill that you get from experience or education.” and practice as “to do something regularly or constantly as an ordinary part of your life.”Although, the knowledge, attitude and practices they follow, doesn’t necessarily be in tandem with the requirement. Also, it might be advisable to make these new recruits to undergo training before appointing at their respective designations.Hence, its need of an hour to assess knowledge and practices at baseline and implement some appropriate programs to improve the same.

Hence, the current questionnaire based study was designed to assess the knowledge and practices related to oral health of support staff at dental institute in Maharashtra.

Material and Methods

Study design, study population and study setting: This cross-sectional survey (field study) was carried out on 103 support staff members working in a Dental Institute of Sangli city, Maharashtra State. Support staff included nursing staff, lab technicians, lab attendants, clerical staff and peons. Permission to conduct the study on support was obtained from Head of the Institution. Ethical clearance was obtained from the institutional ethical committee prior to the start of study on 06/10/2020.(IEC/0-32/20). Informed consent was obtained from the study participants prior to the start of the study. The participants who refused to give informed consent were excluded from the study.

Questionnaire: Oral health knowledge and practices among support staff were evaluated using a self-designed objective questionnaire consisting of three sections, namely: demographic details, Oral health related knowledge (9 questions) and Oral health related practices (7 questions). The original English version questionnaire was translated to Marathi version by adapting the technique of back to back translation. Both English language instrument and Marathi back-translations were reviewed and discrepancies were ruled out. This questionnaire was then administered to five experts to check for face validity. Questionnaire was modified as per suggestion received from the experts. This modified version was subjected to ten support staff members on two different occasions to check for test-retest reliability. The kappa score for reliability was 0.81. Final version of the questionnaire consisted of 16 questions. Depending upon the scores, knowledge about oral health of each subject was categorized as Poor (0-3 correct answers), Fair (4-6 correct answers) and Good (7-9 correct answers).

Statistical analysis: The data was compiled and analyzed using SPSS v20 by keeping level of significance at 5%. Demographic characteristics, oral health related knowledge and practices were presented using descriptive statistics (mean and frequency distribution). Knowledge among different categories of support staff was compared using chi-square test.

Results:

Table 1 shows, the average age of participants was 35.98 years whereas, the gender distribution showed 54.4% males against 45.6% female participants. The number of graduate participants accounted for 44.7% followed by High school (24.3%), PG diploma (13.6%) and remaining ones with education background of post-graduation, middle school, dental hygienist and dental technician. Office maintenance staff and associate staff were outnumbered by clerical staff. Whereas, the mean experience of all participants was found to be around 7 years.

Table 1: Demographic details of study participants

Variable	Category	Mean/ n(%)
Age (in yrs)	--	35.98 ± 5.81
Gender	Male	56 (54.4)
	Female	47 (45.6)
Education	Dental Hygienist	1 (1)
	Dental Technician	1 (1)
	Post Graduate	10 (9.7)
	PG Diploma	14 (13.6)
	Graduate	46 (44.7)
	High school	25 (24.3)
	Middle school	6 (5.8)
Designation	Associate staff	29 (28.2)
	Clerical Staff	41 (39.8)
	Office maintenance staff	33 (32)
Experience (in yrs)	--	7.21 ± 3.51

Table 2 illustrates the responses by participants towards individual questions. The overall responses of all three categories were found satisfactory with correct responses more than 50%. Except for one question related to usage of fluoride.

Table 2: Assessment of oral health related knowledge (correct answer) (%)

Question	Associate	Clerical	Office Maintenance	Overall
In a lifetime, how many sets of teeth erupt in the oral cavity	93.1	87.8	75.8	85.4
How many deciduous teeth erupt in the oral cavity?	79.3	68.3	75.8	73.8
How many permanent teeth erupt in the oral cavity?	75.9	82.9	84.8	81.6
Excessive consumption of sweet foods leads to development of dental caries	100	97.6	93.9	97.1
Fluoride is beneficial for oral health	24.1	22	12.1	19.6
Bleeding while toothbrushing is a sign of unhealthy gingiva	100	97.6	97	98.1
Healthy deciduous teeth are important for proper eruption of permanent teeth	69	58.5	57.6	61.2
Chewing tobacco is an ideal method to reduce tooth pain	93.1	95.1	90.9	93.2
How often should you visit a dentist	62.1	39	69.7	55.3

Among associate staff, clerical staff and office maintenance staff the amount of knowledge was found to be around 65% and being highest than other two (**Table 3**). Whereas, clerical staff knowledge was fair and more than 50% correct answers were found among office maintenance staff. The overall knowledge scores combined for all the categories showed 55% having Good, 45% Fair and 2% having poor knowledge regarding oral health. The comparison was conducted using chi-square test and the difference was found to be non – significant.

Table 3: Comparison of oral health related knowledge (%)

Knowledge	Associate Staff	Clerical Staff	Office Maintenance Staff	p value
Good	65.5	43.9	54.5	0.438 (NS)
Fair	34.5	53.7	42.4	
Poor	0	2.4	3.0	
Total	100	100	100	

Chi-square test; NS: Non-significant
Knowledge categories:
Good – 7-9 correct answers
Fair – 4-6 correct answers
Poor – 0-3 correct answers

Table 4 reveals the commonly followed tooth cleaning method was toothbrush (100%) and toothpaste (91.3%) among others. Around 78% claimed to be practicing tooth cleaning twice everyday. Although, only about 9% participants were using additional oral hygiene aids.

Table 4: Assessment of tooth cleaning practices

Question	Category	Response (%)
Tooth-brushing frequency	Once	21.4
	Twice	78.6
	More than twice	0
Tooth cleaning aid used	Toothbrush	100
	Finger	0
	Neem stick	0
Type of dentifrice used	Toothpaste	91.3
	Tooth powder	8.7
	Nothing	0
	Other	0
Use of any other oral hygiene aid	Yes	9.7
	No	90.3

Among the participants, more than 50% feel the need to visit dentist is only when it pains, followed by 33% participants who claim the need to visit every six months (**Table 5**). Almost, 32% participants received combination of treatments whereas 26% extraction followed by dental filling(15.5%), scaling – polishing (8.7%) and only examination (17.5%) during their last visit. Whereas, the commonest reason to avoid treatment was without any particular reason. Almost, 25% participants were in fear to receive treatment followed by high cost (17.5%) and lack of time (11.7%) among other reasons to avoid treatment.

Table 5: Assessment of attitude towards dental treatment

Question	Category	Response (%)
How often do you visit a dentist	Once in three months	7.8
	Once in six months	33
	Once in a year	3.9
	Only when it pains	54.4
	Never visited a dentist	1
Dental treatment undergone in last visit	Only examination	17.5
	Medicine only	0
	Dental filling	15.5
	Scaling and polishing	8.7
	Extraction	26.2
	Combination of treatments	32
Reason for avoiding the treatment	Fear	25.2
	High cost	17.5
	Lack of time	11.7
	No reason	45.6

Discussion:

Knowledge of oral health is considered as one of the important factors as it influences the oral health related behaviour of an individual and oral hygiene practices in turn depend on the individual's knowledge which affects the oral heath

related quality of life. The available literature highlights that very few studies have been done on the supportive staff in India. Hence, the main aim of this survey was to assess the knowledge, attitude and practices of support staff at dental institute and participants comprised of support staff of a Dental college in Maharashtra. The response rate was 100 percent for the present survey. The high response rate was expected as the investigator personally went to each respondents and distributed the questionnaires. In many cases, the investigator waited for the questionnaire after handing it to the respondent. Majority of the participants had completed their graduation (44.7%) which implies that they had acquired necessary skills for their duties.

The overall knowledge scores combined for all the categories showed 53% having good, 45% fair and 2% having poor knowledge regarding oral health. Majority of the study participants were aware of the total number of deciduous (73.8%) and permanent teeth (81.6%) which erupt in oral cavity. These findings can be attributed to the level of education; majority of them being graduates (44.6%). These results were in accordance to the study conducted by **Shetty MSet al.**[7] among non-teaching staff of Dakshin Karnataka where they found the knowledge score was 76.6% and study done by **Kalyan VS et al.**[5] in support staff of an institute in Telangana where the knowledge score was 75%; whereas, in a study done by **Mohammed Ahmed et al.**[3] the knowledge score of the study participants in Madina was found to be less than 33%. Almost all the study participants (97.1%) were aware that excessive consumption of sweet foods leads to development of dental caries. The knowledge score was higher in the present study when compared to study done by **Kalyan VS et al.**[5]and**Shetty MS et al.**[7]in which only 72% and 66.6% participants had the knowledge that consumption of sweet foods leads to development of dental caries.

Very few participants had the knowledge that Fluoride is beneficial for oral health (19.6%) which was less (55%) as compared to the study done by **Kalyan VS et al.**[5]which highlights the lack of knowledge on fluoride as the preventive oral health education measure in India. The participants also knew that chewing tobacco is not an ideal method to reduce tooth pain (93.2%), which showed similar results to the study done by **Shetty MS et al.**[7]

According to oral health practices, commonly followed tooth cleaning method was toothbrush (100%) and toothpaste (91.3%) which was similar to study done by, **Kalyan VS et al (95.6% and 93.5%),** whereas in a study done by **Mohammed Ahmed et al.** around 77% of the participants were using both tooth stick (Miswak) and toothbrush and 90% used toothpaste and**Amith HV et al**82% used toothpaste for brushing.[8,9,10]Around 78% claimed to be practicing tooth cleaning twice every day, which was more than the study done by **Kalyan VS et al,Amith HV et al, Mohammed Ahmed et al. and Shetty MS et al** in which only 19%, 39%, 48% and 60% participants brushed twice daily, but less than the study done by **Aunger et al.** which showed that 89% of adults brush twice a day. Although, only about 9% participants were using additional oral hygiene aids whereas in other studies by **Mohammed Ahmed et al** 16 %, **Kalyan VS et al** 25%, **Shetty MS et al** 97% were using, **Amith HV et al** 56% were not using oral hygiene aids.[3,5,7-10]

It is quite surprising that in spite of working in a dental college and with the availability of free dental services 54.4% felt the need to visit dentist is only when it pains, which was similar to studies done by **Kalyan VS et al** (56.73%) and **AmithHV et al** (56%) **Mohammed Ahmed et al** (61%).[5,7,8]These results show the gap in oral health knowledge and behaviour among this particular population. Almost, 32% participants received combination of treatments whereas 26% extraction followed by

dental filling (15.5%), scaling – polishing (8.7%) and only examination (17.5%) during their last visit. In a study done by **Kalyan et al**, 27% participants didn't undergo any particular treatment in last six months whereas in a study done by **Shetty MS** et al only 12.6% visited the Dentist in past 6 months. Whereas, the commonest reason to avoid treatment was without any particular reason. Almost, 25% participants were in fear to receive treatment followed by high cost (17.5%) and lack of time (11.7%) among other reasons to avoid treatment.[5,7]

Limitations and recommendations: findings of the present study cannot be generalized to the general population as it was conducted only among support staff of a single institute. Since the study was evaluated based on the self-reported information from patients which may have varying levels of comprehension, it may not reflect the actual knowledge of the participants. The years of experience and quality of education was not taken into consideration which can be a factor influencing knowledge and practices of the participants which should be explored in further studies. Regular health education programs should be conducted in Dental training institutes to improve the knowledge and practices of the target population. It is also recommended to motivate them for utilizing the services available to them by organizing awareness and training programs emphasizing the importance of oral health.

Conclusion: The results of the present study conclude that majority of the participants had a good knowledge about their oral health but were not motivated to utilize dental services which were available to them. The oral hygiene practices lacked the use of supplemental oral hygiene aids.

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